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Email: tajar2011@yahoo.com, tajar2011@gmail.com

ASSESSMENT OF INPUTS ACCESSIBILITY BY BENEFICIARIES OF ELECTRONIC-WALLET (E- WALLET) SCHEME IN KADUNA STATE, NIGERIA

[1]Barnabas, T. M., [1]Tsado, J. H., [2]Jirgi, A. J., [1]Pelemo, J. J. and [1]Opara, S.C.

[1]Department of Agricultural Extension and Rural Development, School of Agriculture and Agricultural Technology, Federal University of Technology, Minna, Niger state, Nigeria
[2]Department of Agricultural Economics and Farm Management, School of Agriculture and Agricultural Technology, Federal University of Technology, Minna, Niger state, Nigeria

Corresponding Author's email address: mbtena90@gmail.com
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ABSTRACT

This study assessed the accessibility of inputs by beneficiaries of the E-Wallet Scheme in Kaduna State with specific objective to: identify types and quantities of inputs supplied by the scheme; determine the level of accessibility of inputs (fertilizer, improved seeds and herbicides) by the beneficiaries and challenges faced by beneficiaries in the implementation of the scheme. Data were collected through questionnaire and interview. A total of 240 questionnaires were administered to the beneficiaries in the four Zones of Kaduna State Agricultural Development Program (KADP) namely Birnin-Gwari, Maigana, Lere and Samaru that constitute the study. Descriptive statistics and Likert scale measurement were used to analyze the data. Result of the study revealed that most (65.8%) of the farmers were supplied with one bag of NPK and UREA (50 kg each). About 52.1% were supplied with 20kg of improved maize seed. About 62.1 % and 81.7 % of the respondents had access to NPK fertilizer and improved maize seeds respectively. Access to inputs through the scheme enabled about 30% of the farmers to increase their productivity. Major challenges faced by participants of the scheme include; payment above the stipulated price (51.7%), political influence and change in goverment policy. It was recommended that the quantity of fertilizer per beneficiary should be increased from two to four bags and there should be strict monitoring to curb increase in prices and sale of the inputs by beneficiaries.

Key Words: Accessibility, Inputs, Beneficiaries and E-Wallet Scheme

INTRODUCTION

Access to modern agricultural inputs by farmers is the backbone to agricultural development and such inputs include improved seeds, fertilizers and chemicals used in crop protection to farm machinery, irrigation and knowledge. Seeds are critical to successful crop production and inevitably, farm productivity and profitability. According to the International Fertilizer Distribution Centre/International Food Policy Research Institute (IFDC/IFPRI, 2012) most agricultural outputs come from resource-poor small scale farmers that have land holdings between 0.8-1.2 ha. These resource poor farmers are characterized by using low levels of inputs and consequently also generating low output. Many of them still use obsolete farming techniques and do not have access to basic production tools nor to production inputs (improved seed varieties, fertilizer and herbicides.).

There supply and use of fertilizer and other important inputs must be increased for any nations that want to promote agricultural development. This implies a cost-effective input supply system from importation or production to farm gate. Lack of fertilizer will bring about low yield which means low income hence the farmers will not have money to buy the needed fertilizers for their crops (IFDC/IFPRI, 2012; Danlami, 2014). The World Bank (2013) reported that most agricultural production in Nigeria is mainly carried out by farmers in rural areas. These farms are usually fragmented having low input and low output. In Nigeria less than ten percent of farmers

have access to improved seeds (IFDC, 2013). The World Bank (2013) reported that Nigeria's crop yields had the lowest growth rate of 0.2% from 1968 to 2008 compared to 1.2% for China, 2.3% for Indonesia and 3% for Malaysia.

The Federal Government of Nigeria in its efforts to overcome the problems associated with inputs supply to farmers, especially small scale farmers, introduced the Growth Enhancement Support Scheme (GESS) and the use of Electronic Wallet (E-Wallet) approach or simply E-Wallet scheme (Adesina, 2013). The E-Wallet scheme is an approach that is designed for small scale farmers to access farm inputs through the use of vouchers. An E-Wallet which is designed for smallholder farmer is defined as an efficient and transparent electronic device system that makes use of vouchers for the purchase and distribution of agricultural inputs (Ezeh, 2013; Adesina, 2013). The criteria for farmers' participation include: farmers being above 18 years old; have participated in a survey authorized by the government to capture farmers' personal detailed information; must own a cell phone with a Registered SIM card and have at least sixty Naira credit in the cell phone. The fulfillment of these conditions guarantees the issuance of an E-Wallet voucher to the farmer. The voucher is used to redeem fertilizers, seeds and herbicides from agro- dealers at half the cost price (Signal Alliance, 2014). The subsidized farm inputs are delivered directly to farmers through their mobile phones. The project is expected to provide direct linkage between farmers and the government. This will enable the government to disseminate valuable information to the farmers, thus ensuring farmers' progress (Ezeh, 2013).

In Nigeria the distribution of agro inputs such as fertilizer, seeds and agro chemicals had been faced with fraudulent practices ranging from adulteration to diversion of products (Ajani and Igokwe, 2002). Governments at different levels from the federal to states and even local government authorities are expending much money on the procurement and distribution of inputs to targeted farmers without yielding the desired result (Gregory, 2006). In spite of the continued application of subsidy, total farm inputs such as fertilizer usage are far below the potential and economic demand (Salimonu, 2008). Several past governments in Nigeria have made several attempts over the years to boost farmers' productivity. Among these efforts are the supplies of farm inputs such as improved seeds, agrochemicals and fertilizers at subsidized prices to farmers. Increasing adoption of modern inputs remains one of the best hopes toward higher agricultural production in developing countries including Nigeria.

The broad objective of the study was to assess the inputs accessibility by beneficiaries of E-Wallet Scheme in Kaduna State. While the specific objectives were to:

i. Identify the types and quantities of inputs supplied by the scheme;
ii. Determine the accessibility of inputs (fertilizer, improved seeds and herbicides) by the beneficiaries;
iii. Identify the challenges faced by beneficiaries in the implementation of the scheme.
iv. Identify the consequences of not redemption of inputs on time

METHODOLOGY

Study Area

Kaduna State is one of the 36 States in the Federal Republic of Nigeria. The total land mass of the State is estimated at 46,053 sq km which is about 5% of the total land area of Nigeria (Nigeria Galleria, 2017). Using 3.18% growth rate as allowed by the National Population Commission, the projected population of Kaduna State would therefore be 8,446,417 by the year 2018 (National Population Census, (NPC), 2006). Agriculture is the main stay of the economy of Kaduna state with the majority of the people actively engaged in farming. Cash and food crops are cultivated and the produce includes: yam, cotton, groundnut, tobacco, maize, beans, guinea corn, millet, ginger, rice and cassava. A significant number of families are involved in livestock production. The important livestock reared include poultry, cattle, sheep, goats and pigs. Small scale famers dominate agricultural production in the State.

Sample Size and Sampling Technique

The growth enhancement scheme was implemented in all the States of Nigeria. This study was carried out in Kaduna State, Nigeria. A multi stage sampling technique was used in selecting the respondents for the study. According to the Kaduna Agricultural Development Project (KADP) zonal system, the state is divided into four agricultural zones namely: Birnin-Gwari, Maigana, Lere and Samaru. The first stage involved a random selection of two Local Government Areas in each of the four KADP Zones to give eight (8) Local Government Areas. The second stage involved the selection of two redemption centres in each selected Local Government Area (LGA) in each Zone to give 16 redemption centres. The last stage involved a 10% proportional random selection of farmers who benefitted from the E-Wallet scheme from each redemption centre giving a total of 240 farmers from a sampling frame of 2400 participants.

Data Collection

Primary data were collected through the use of structured interview schedule with the help of trained enumerators. The data collected were used to determine beneficiaries' accessibility of farm inputs by eliciting information necessary to achieve the specific objectives of the research.

Analytical Tools

Descriptive and inferential statistical tools were used to analyze the data. Descriptive statistics such as percentage, mean, table, frequency and chart were used to achieve objectives 2(types and quantity of inputs) and 3(challenges faced by beneficiaries in the implementation of the scheme). A 3-point Likert scale was used to measure objective 3 (determine the level of accessibility of inputs such as fertilizer, improved seeds and herbicides).

RESULTS AND DISCUSSION

Inputs Supplied by E-Wallet Scheme

Table 1 revealed that 65.8% of the farmers in the study area were supplied with NPK (15:15:15) (50kg of fertilizer) while 34.2% were supplied with 50kg of UREA from the scheme. This implies that most of the farmers in the study area were supplied with NPK fertilizer because 50kg of NPK fertilizer was the standard dosage supplied to E-Wallet beneficiaries. Nwalieji *et al* (2015) reported that quantity of fertilizer (2 bags of 50kg- 1 bag of NPK & 1 bag of Urea) allocated/redeemed was not enough for the majority of farmers that cultivate 1 hectare of land and above. This result indicates that all the farmers in the study area had access to one input or the other, this is expected to increase effectiveness of the scheme among the small scale farmers in the study area. Table 1 also revealed that 52.1% of the farmers were supplied with 20kg of improved (maize seeds) while 34.6% of the farmers were supplied with 10kg of improved rice seeds variety. Also, 12.1% of the farmers were supplied with 12.5kg of improved rice seeds from the scheme, 1.2% were supplied with 15kg of improved maize seeds through the scheme.

Table 1: Respondents' distribution according to E-Wallet inputs supplied

Variables	Frequency	Percentage
Fertilizers		
NPK 50kg	158	65.8
UREA 50kg	82	34.2
Total	**240**	**100.0**
Improved seeds		
Rice 10kg	83	34.6
Rice 12.5kg	29	12.1
Maize 15kg	3	1.2
Maize 20kg	125	52.1
Total	**240**	**100.0**

Sources: Field survey, 2016

Respondents' Distribution According to Accessibility of E-Wallet Scheme

Table 2 revealed the accessibility of E-Wallet scheme in the study area, The result from the Table 2 revealed that 62.1% of the farmers in the study area indicated that NPK fertilizer was accessible with the mean of ($\bar{X}$ = 2.36) while 48.3% indicated that urea was accessible with the mean score ($\bar{X}$ = 2.24). Also, 48.8% of the farmers in the study area indicated that rice seeds was accessible with the mean value ($\bar{X}$ = 2.36) while 81.7% revealed that maize was accessible with mean score ($\bar{X}$ = 2.14). The result shows that all the inputs supplied to the farmers were all accessible. Having easy access to fertilizers and other inputs supply through the scheme really motivated the farmers to participate in the scheme, which simply imply that E-Wallet scheme in the study area was effective. This is in agreement with the findings of Oyetoro *et al*. (2015) and Yusuf *et al*. (2015) who all reported that farmers did not have problem in accessing the needed fertilizer and other farm inputs.

Table 2: Respondents' distribution according to accessibility of E-Wallet scheme

Variables	Very Accessible	Accessible	Not Accessible	Sum	Mean	Remarks
Fertilizers						
NPK	89 (37.1%)	149 (62.1)	2 (0.8%)	567	2.36	Accessible
UREA	91 (37.9%)	116 (48.3)	33 (13.8)	538	2.24	Accessible
Improved Seeds						
Rice	105 (43.8)	117 (48.8)	18 (7.5)	567	2.36	Accessible
Maize	39 (16.2%)	196 (81.7)	5 (2.1%)	514	2.14	Accessible
Others (Soyabeans, Beniseed)			240 (100)	240	1.0	Not Accessible

Sources: Field survey, (2016)

Challenges Faced by Respondents in Accessing Inputs through E-Wallet Scheme in the Study Area

The findings as shown in Table 3 highlighted the challenges faced by respondents in the E-Wallet scheme. The challenges include payments above what government stipulated (51.7%). It was evident that corruption has overwhelmed the E-Wallet Schemes as the officials are demanding farmers to pay more than what was expected of them. This scenerio had negative effect on the effectiveness of E-Wallet schemein the study area. Also, 33.3% of the farmers expressed inconsistency in government policies to be another challenge encountered in the programme. The findings were in line with the findings as reported in The Economy (2016), it also reported that inconsistent government policies was a major setback for most of agricultural and rural development programmes in Nigeria. Similarly, 31.7% of the farmers in the study area revealed that political influence is another setback to the scheme and this is also corroborated by Nwalieji *et al.* (2015), Nwaobiala and Ubor, (2016). This situation might arise because different governments have their focus and targets.

Furthermore, findings of the study revealed that 46.2% of farmers had network problem while 53.8% indicated that they had no network problem. Access to good network is expected to have positive impact on the effectiveness of E-Wallet scheme among the farmers by providing timely and speedy information that will enhance their productivity. Also, 27.1% of the farmers indicated no alert service as a consequence of network problem while 15.8% of the farmers indicated that they face delay in redeeming inputs. Non-availability of network will go a long way in affecting the effectiveness of E-Wallet scheme among the farmers, this finding is supported by Godson-Ibeji *et al*. (2015) who reported that poor telephony network is a major challenge to some of the telephone subscribers in Nigeria and the coverage of some of the networks are restricted to particular areas hence most farmers might have limited network coverage.

Table 3: Challenges Faced by Respondents in Accessing Inputs through E-Wallet Scheme in the Study Area

Challenges	Frequency	Percentage
Government policy	80	33.3
Political influence	76	31.7
Politician influence in the implementation of the scheme	25	10.4
Payment of what government stipulated	124	51.7
Lack of participation by farmers	11	4.6
No message alert	65	27.1
No functional assets	20	8.3
Network problem	111	46.2
Non redemption of inputs on time	97	40.2

Sources: Field survey, (2016)
*Multiple responses recorded

Consequence of not redeeming inputs on time

Result of the study in Table 4 revealed the consequences of not redeeming inputs on time. From the table it can be deduced that 31.1% of the farmers in the study area revealed that non-redemption of inputs on time resulted in low productivity. Also, 5.8% and 3.3% of the respondents in the study area believed that non-redemption of inputs on time led to loss of input and loss of hope by farmers. The consequence of not redeeming inputs on time is expected to have negative effect on the effectiveness of E-Wallet scheme in the study area.

Table 4: Respondents According to the Consequences of Not Redemption of Inputs on Time

Variables	Frequency	Percentage
Low productivity	75	31.1
Loss of input	14	5.8
Loss of hope by farmers	8	3.3

Sources, Field survey, 2016

SUMMARY, CONCLUSION AND RECOMMENDATIONS

The Agricultural Transformation Agenda (ATA) in which E-Wallet was the major component supplied fertilizers, improved seeds and herbicides to the farmers at subsidized prices through their mobile phones. Access to these farm inputs was easy and cheaper with higher quality than those obtained in the open markets. Although, there were challenges faced in the implementation of the programme, these challenges would have been surmounted if the scheme was left to continue but the government that came after abolished it without a concrete replacement. This action has made the farmers to call for the re-introduction of the E-Wallet scheme in order to reduce the hardships faced by farmers during the farming season.

The respondents had access to NPK fertilizer and improved maize seeds with increased productivity. bags and there should be strict monitoring to curb increase in prices and sale of the inputs by beneficiaries.

Based on the findings of the study, the following recommendations were made:

i. Government and private sector should increase the quantity of the inputs supplied to the farmers especially fertilizer and herbicides
ii. The farmers suggested the re-introduction of the scheme and also reorganize its operational procedure with the view of making it more effective
iii. The scheme should have a mechanism of monitoring in order to guard against increase in prices by the desk officials and also the reselling the inputs by beneficiaries for the purpose of meeting their immediate financial and family needs

REFERENCES

Adesina, A. (2013). Honorable Minister of Agriculture and Rural Development, Federal Republic of Nigeria, at the 36Th Session of the IFAD Governing Council.

Ajani, E. N. and Igokwe, E. M. (2002), Promoting Entrepreneurship and Diversification as a Strategy Adaptation among Rural Women in Anambra State, Nigeria. *Journal of Agricultural Extension 16(2), 71-78.*

Danlami, A.H. (2014). Determinant of Demand for Fertilizer: A Conceptual Review. IOSR *journal of Economics and Finance* (IOSR-JEF). *4(4),45-48.*

Ezeh, A. N. (2013). Access and application of information and communication technology (ICT) among farming households of south east Nigeria. *Agriculture and Biology Journal of North America.3(4),605-616.*

Gregory, I. (2006). The Role of Input Vouchers in Pre-Poor Growth. Selected Sections from Background Paper Prepared for the African Fertilizer Summit, Abuja, Nigeria.

Godson-Ibeji, C.C., Chikaire, J.U. & Anyaoha, N.O. (2015). Assessing the effects of e-wallet scheme in farm inputs distribution to rural farmers in Imo State, Nigeria. *Journal of Agricultural Research and Development. 6(2), 34-4*.

International Fertilizer Distribution Center (IFDC) (2013). International Fertilizer Distribution Center Projects in Nigeria. Available onhttp://www.ifdc.org/Nations/Nigeria accessed on November 23, 2014.

International Fertilizer Distribution Center (IFDC)/ International Food Policy Research Institute (IFPRI) (2012). Improving Fertilizer Markets in West Africa: The Fertilizer Supply Chain in Nigeria. Available onhttp://www.ifdc.org/Assessed on November 23, 2014.

National Population Commission (NPC) (2006). Provisional Census Report for Nigeria (Draft Report), 105-115.

Nigeria Galleria (2017). Brief History of Kaduna State. Accessed on 20/12/2017

Nwaobiala, C.U. & Ubor, V.U. (2016). Effectiveness of Electronic Wallet System of Growth Enhancement Support Scheme Distribution Among Arable Crop Farmers in Imo State, South Eastern Nigeria. Scientific Papers Series. *Management, Economic Engineering in Agriculture and Rural Development,16(1),34-36.*

Nwalieji, H.U., Uzuegbunam, C.O. & Okeke, M. N (2015). Assessment of Growth Enhancement Support Scheme among Rice Farmers in Anambra State, Nigeria. *Journal of Agricultural Extension, 19(2), 6-17.*

Oyetoro, J. O., Rahman, S. B., Oladipo, S. O. & Jolayemi, J. O. (2015).Crop Farmers' Perception of Growth Enhancement Scheme in Curbing Corruption in Inorganic Fertiliser Delivery in Odeda LocalGovernment Area of Ogun State, Nigeria. *Nigerian Journal of Rural Sociology*. *16(1),50-65.*

Salimonu, K. K., (2008), Access to Fertilizer Subsidy among Food Crop Farmers in Osun State, Nigeria.*International Journal of Agricultural Economics & Rural Development (IJAERD), 1(2), 58-62.*

Signal Alliance (2014). ERP For TheAgriculture Sector in Nigeria. Transforming Big Data into Big Value in Agriculture Industry.http://www.slideshare.net/signalalliance/erp-for-the-agriculture-in-nigeria accessed on November 23, 2014.

The Economy (2016): http://theeconomyng.com/news12.html. Accessed on 15/05/

Yusuf, O. J., Abdullahi, K. A. & Haruna, S. K. (2015). Effectiveness of E-Wallet Scheme in Curbing Sharp Practices Associated with Agricultural Input Accessibility Among Smallholder Farmers in Kano State, Nigeria. *Nigerian Journal of Rural Sociology. 15(2), 67.*

World Bank (2013). Nigeria/World Bank Data. Trading Economics available on http://www.tradingeconomics.com/nigeria/indicators-wb accessed on November 23, 2014.